

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

In the Matter of )

)  
Replacement of Part 90 by Part )  
88 to Revise the Private Land )  
Mobile Radio Services and Modify )  
the Policies Governing Them )

PR Docket No. 92-235

To: The Commission

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

REPLY COMMENTS OF THE  
UTILITIES TELECOMMUNICATIONS COUNCIL

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## TABLE OF CONTENTS

SUMMARY . . . . .	iii
I. INTRODUCTION . . . . .	1
II. SERVICE POOLS AND FREQUENCY COORDINATION . . . . .	2
A. Comments Confirm That The Radio Services Should Be Consolidated On The Basis Of Historical Sharing . . . . .	2
B. Comments Support Allowing Frequency Coordinations By All Certified Coordinators For A Given Pool . . . . .	7
C. Vertical Loading Should Not Be Mandated . . . . .	9
D. Public Service Industrial Mutual Aid Channels Should Be Established . . . . .	10
E. Shared Use Of Radio Facilities Should Be Permitted . . . . .	11
III. CHANNEL SPLITS/CHANNEL EFFICIENCY STANDARDS FOR THE 150-174 MHz BAND . . . . .	13
A. Comments Reveal Uniform Opposition To Commission Proposal . . . . .	13
B. The Commission Should Adopt A Gradual Transition That Emphasizes The Use Of 12.5 kHz Channels . . . . .	22
C. LMCC "Option B" Should Be Rejected . . . . .	24
D. VHF Offset Overlay Proposal Warrants Further Attention . . . . .	26
E. FCC Should Retain Load-Shedding Channels . . . . .	29
F. Innovative Shared Use Channels Should Not Be Implemented . . . . .	30
G. Trunking Should Be Allowed In VHF And UHF Bands . . . . .	32

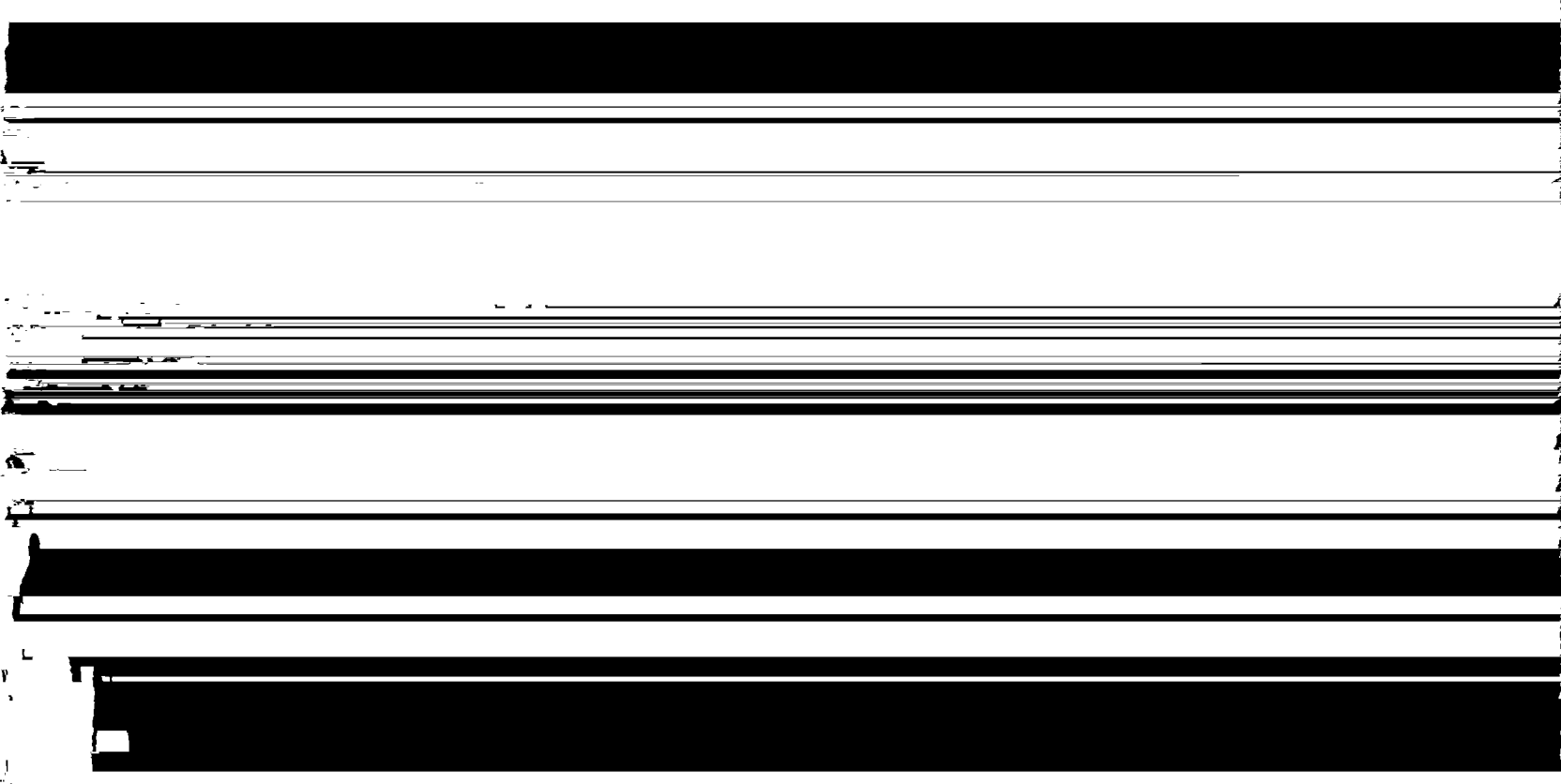
IV. THE 421-512 MHZ BAND . . . . . 33

A. Comments Support A Modified  
LMCC Transition Plan . . . . . 33

B. Flexibility Should Be Permitted In The

## SUMMARY

While the commenters commend the FCC for its initiative to make more effective and efficient use of the bands below 512 MHz, the comments reveal widespread dissatisfaction with many of the Commission's specific proposals. The FCC appears to be enamored with change for the sake of change, and in many cases fails to recognize the adverse consequences of its proposed actions. Further, a number of the FCC's proposals evidence a fundamental lack of understanding as to the essential purpose of the private



technology. The commenters agree with UTC that the FCC's plan would be prohibitive both financially and operationally. Wishful thinking on the part of the Commission with regard to equipment development is not enough: utilities and other large PLMR users require affordable equipment with full functionalities to meet critical communication requirements today.

In the 150-174 MHz VHF high-band, the overwhelming majority of commenters favor the adoption of Land Mobile Communications Council's (LMCC) "Option A." However, UTC believes that a separate "offset overlay" proposal has sufficient facial attraction to warrant further consideration. In light of the significant advantages that this plan may offer and in consideration of the serious consequences raised by the adoption of any rechannelization scheme, UTC urges the FCC to defer from making any final decision on the VHF high-band at this time. Instead, UTC recommends the adoption of a "Further Notice of Proposed Rulemaking" to more fully examine the options presented for the VHF high-band.

Commenters also join UTC in opposition of the Commission's impractical transition plan for the 421-512 MHz band. UTC urges the Commission to, instead, adopt the more reasonable and graceful plan proposed by UTC. This plan, a modification of the LMCC "Consensus Plan" for the UHF band, would dramatically increase the number of available frequencies while permitting

limited use of wideband channels in non-congested areas and in urban areas on a secondary basis. Numerous commenters supported the LMCC "Consensus Plan" and UTC's proposed modifications.

UTC also urges the Commission to permit flexibility in the designation of offset frequency pairs for primary, site-specific operations. UTC does not believe that one allocation would be appropriate for all services. Therefore, UTC proposes that each service should initially determine the appropriate percentage of offset channels to be set-aside for site-specific and itinerant operations, and that these recommendations be incorporated in the rules.

UTC supports a slightly modified version of the Commission's proposal to authorize low power mobile stations in the 450-470 MHz band for telemetry operations which would take into account UTC's transition plan. However, UTC objects to permitting the use of these frequencies for non-telemetry purposes. Furthermore, UTC objects to permitting the low power operations currently proposed on a secondary basis in the 460-470 MHz band to operate on a primary basis.

Commenters were virtually unanimous in opposing the FCC's proposal for strict power/height limits to permit frequency reuse at standard 50-mile spacings. If explicit guidelines on power/height are required, UTC joins the many commenters who have

recommended adoption of LMCC's two-part procedure for a safe harbor table of permissible power/height combinations and a procedure for submission of coverage contours.

Commenters voiced widespread support for the Exclusive Use Overlay (EUO) concept. UTC urges the Commission to adopt the flexible EUO plan under which EUO licenses would have the right to enforce the separations guidelines of the safe harbor tables against new systems. Under this plan, licensees would still have to obtain concurrence from existing licensees in order to obtain EUO, but only from those licensees that are operating closer than would be allowed under the tables.

UTC strongly opposes the suggestion that the size of the EUO area should be somehow dependent on the system's loading. This proposal would unnecessarily restrict EUO, unfairly penalize licensees with large operating territories, not guarantee that the most efficient use is being made of the spectrum and not reduce the burden on the Commission or coordinators.

UTC supports a clarification of the Commission's proposed exception to the loading requirements for safety-related systems to ensure that such services would be exempt even if not licensed in the Public Safety Pool. UTC further supports a clarification that this exception applies to services that are closely related to or necessary for public safety.

UTC does not seek special treatment for mobile-only systems with regard to the mobile loading standard and, therefore, agrees that mobile-only systems should be included in EUO only if these systems meet the loading criterion. UTC opposes relaxing the proposed loading criterion, and believes that none of the suggested modifications to this criterion are as workable or objective as a mobile loading standard.



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Pursuant to Section 1.415 of the Commission's Rules,  
the Utilities Telecommunications Council (UTC) hereby  
submits its reply comments with respect to the Notice of  
Proposed Rulemaking (NPRM), 7 FCC Rcd 8105 (1992), released  
November 6, 1992, in the above captioned matter.<sup>1/</sup>

I. INTRODUCTION

UTC, as the national representative on communications  
matters for the nation's electric, gas, water, and steam  
utilities, and natural gas pipelines, submitted extensive  
comments in this proceeding. UTC's comments focused on the  
vital role of private land mobile communications facilities  
in carrying out the public service obligations of

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<sup>1/</sup> By Order, DA 93-800, released July 2, 1993, the  
Commission extended the reply comment date to July 30,  
1993.

utilities, and on the necessity to craft private land mobile regulations in a manner that provides a graceful transition: (1) allowing for amortization of existing equipment; and (2) ensuring the operational stability of existing and anticipated utility communications capabilities. Below, UTC again addresses these issues in the context of the comments filed by the various parties in this proceeding.

## II. SERVICE POOLS AND FREQUENCY COORDINATION

### A. Comments Confirm That The Radio Services Should Be Consolidated On The Basis Of Historical Sharing

In its comments, UTC agreed with the Commission that there is a need for consolidation of the existing radio services, but opposed, as too extreme and ill-advised, the Commission's proposal to consolidate the current 19 private radio services into 3 broad categories: (1) Public Safety; (2) Non-Commercial; and (3) Specialized Mobile Radio (SMR), plus a General Category Pool encompassing all of the services.

UTC noted that the FCC's proposal amounts to a "least common denominator" licensing approach that incorrectly assumes all "non-commercial" radio services have equivalent

interference-free operation than is required by many other categories of licensees. Other commenters having quasi-public safety/public service attributes echo UTC's concern. For example, the American Petroleum Institute (API) notes that the essential safety communications of petroleum companies, pipelines, public utilities and railroads transcend those of many other users who employ their mobile radio systems primarily for commercial purposes.<sup>2/</sup>

Similarly, the Joint Comments of Industrial Telecommunications Association, Inc, the Council of Independent Communications Suppliers and the Telephone Maintenance Frequency Advisory Committee (Joint Commenters) note that a fundamental flaw with the FCC's proposal is that it includes in a single pool entities having a clearly defined, non-discretionary need for radio service to accommodate vital industrial activities along with other

attributes that set them above and apart from other radio services,<sup>4/</sup> overall, the commenters reveal a grudging recognition that all services have some unique operational characteristics but that the time for individual service allocations (like that of the steam engine) is past. Accordingly, there is a general consensus among the commenters that a limited form of service consolidation is necessary.

API proposes that the FCC establish an additional license category designated as the Industrial Safety Service composed of entities that are charged with a higher level of responsibility regarding their communications system that demands a separate frequency allocation and different technical and operational rules.<sup>5/</sup> As indicated in its comments, in an "ideal world," UTC's preferred approach like API's would be to form pools based purely on the combination of like radio services. However, the reality is that PLMR channels are already shared among services and it would be difficult to reallocate channels among the existing radio services in order to create contiguous blocks of spectrum.

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<sup>4/</sup> AAR, p. 7.

<sup>5/</sup> API, p. 7.

In light of the current shared radio environment, UTC reiterates its position that the most rationale and manageable approach is to consolidate "like" radio services with historical channel sharing and where consolidation will lead to radio pools having contiguous blocks of

The basic approach suggested by UTC received wide-based support from commenters representing the various user communities. In fact, the UTC approach is nearly identical to that put forward by the Coalition of Industrial and Land Transportation Land Mobile Radio Users (Coalition),<sup>6/</sup> and the National Association of Business and Educational Radio, Inc. (NABER).<sup>7/</sup> Moreover, the services that UTC proposes to consolidate into the formation of a Public Service Industrial category in large part mirror the consolidation of services that API proposes for its Safety Industrial Services.<sup>8/</sup>

UTC opposes the Joint Commenters' proposal to create a Private Industrial Service Pool comprised of the current

broad range of eligibles with no particular expertise in the specific coordination requirements of the individual service categories.

The majority of commenters agree with UTC in opposing the creation of a General Category Pool from new channels obtained through channel splits. The creation of a General Category Pool would limit the ability of individual pools to control and coordinate the effective use of their channels, and would act as a disincentive for entities to implement more efficient technologies. UTC agrees with the Associated Public Safety Communications Officers (APCO) that newly created private land mobile channels should be retained for use by the service pools from which they were derived.<sup>10/</sup>

**B. Comments Support Allowing Frequency Coordination By All Certified Coordinators For A Given Pool**

The Joint Commenters, Coalition and API all echo UTC's support of a plan whereby a level of competition is introduced into frequency coordination by allowing applicants in any given pool to use any of the certified coordinators in that pool.<sup>11/</sup> These commenters also share UTC's concern that the FCC adopt sufficiently narrow

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<sup>10/</sup> APCO, p. 35.

<sup>11/</sup> Joint Commenters, p. 25; Coalition, p. 15; and API, pp. 15-16.

service consolidations in order to avoid "coordinator shopping" wherein pricing would outweigh engineering and interference considerations.

Even with the adoption of a limited form of consolidation as proposed by UTC, interservice coordination would be required among the coordinators in each pool unless and until standards are developed on frequency coordination and there is a common database. Accordingly, UTC agrees with API that the FCC should strongly encourage and actively facilitate the development of a standard data base schema to be used by all coordinators within a particular service pool.<sup>12/</sup>

However, UTC strongly disagrees with API's suggestion that the availability of an accurate data base alone is sufficient justification to permit an applicant to directly submit an application to the Commission without prior frequency coordination.<sup>13/</sup> Such an approach could seriously undermine the entire coordination process by compromising the efficiency, reliability and accountability of frequency coordination.

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<sup>12/</sup> API, p. 16.

<sup>13/</sup> API, p. 15.



C. Vertical Loading Should Not Be Mandated

The commenters overwhelmingly oppose the Commission's proposal that coordinators should strive to retain as large a spectrum reserve as possible by "stacking" small users on the same channel (vertical loading), rather than assigning separate channels (horizontal loading) to give each applicant the "best" assignment possible. For example, the American Automobile Association, Inc. (AAA) notes that in

**D. Public Service Industrial Mutual Aid Channels  
Should Be Established**

In its comments UTC emphasized the need for utility mutual aid channels for disaster restoration and other emergency situations. The severe storms and flooding that recently devastated the Midwestern United States underscore the need for neighboring utility crews, that are dispatched to help restore electric, gas and water service, to have common operating frequencies in order to coordinate activities.

In a similar fashion API requested the Commission to dedicate an allocation of channels to be used for emergency response communications for use by the oil and gas industries.<sup>15/</sup> Based upon the similar need for mutual aid/emergency response channels by both Power Radio Service and Petroleum Radio Service eligibles, and given UTC's and API's suggestion to consolidate these two services, UTC proposes that the FCC authorize the creation of mutual aid/emergency response channels for use by all Public Service Industrial licensees.

UTC's proposal to create mutual aid/emergency response channels for Public Service Industrial licensees is modeled in large part on the proposed Public Safety mutual aid

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<sup>15/</sup> API, p. 18.

provisions contained in Section 88.1029. In fact, in many respects the creation of public service mutual aid channels is justified by the same compelling interoperability and public safety/emergency recovery concerns that led the FCC to adopt Public Safety mutual aid channels.<sup>16/</sup>

Specifically, UTC requests that the FCC designate at least five (5) channels or channel pairs in the VHF and UHF bands for Public Service Industrial mutual aid/emergency response use. The proposed mutual aid provisions contained in Section 88.1029 should be amended to authorize the use of specifically designated channels within the Public Service Industrial Pool for use by Public Service licensees on a priority basis. Again, UTC suggests that under the Rules, other uses may be authorized on these channels, but that these other, non-emergency uses, be relegated to secondary status if the channels are required for mutual aid operations. Such a requirement would allow for efficient use of the spectrum during non-emergencies.

**E. Shared Use Of Radio Facilities Should Be Permitted**

UTC continues to support the concept of allowing a "non-commercial" radio licensee to lease reserve capacity on a private carrier basis provided that at least 50% of

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<sup>16/</sup> Report and Order, GEN. Docket 87-112, FCC 87-359, released January 15, 1988.

the system loading is used to meet the licensee's own internal requirements. Such an approach will promote greater spectrum efficiency and will encourage investment into more advanced technologies.

However, UTC's support of allowing private system licensees to lease reserve capacity should not be construed as support for the direct licensing of third-party entrepreneurs to provide commercial services to eligible end-users in the Public Service Industrial Pool. UTC agrees with the Coalition that third-party, private carrier systems are not necessary in the Industrial and Land Transportation radio services.<sup>17/</sup> Accordingly, the Commission should eliminate its proposal to permit "interservice sharing" of VHF and UHF channels by SMRs.<sup>18/</sup> Further, the Commission should also expressly limit eligibility for private carrier systems in the Public Service Industrial Service to those entities that are themselves eligible for licensing as end users.

Finally, UTC agrees with the American Meter Company (AMC) and the American Mobile Radio Association (AMRA) that the FCC should amend proposed rule Section 88.321 to allow non-profit cooperatives to be licensed to provide

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<sup>17/</sup> Coalition, pp. 30-31.

<sup>18/</sup> NPRM, Appendix D, proposed Section 88.309.

communications service to eligible entities.<sup>19/</sup> Non-profit cooperative licensees serve the public interest by allowing smaller entities to achieve economies of scale through collective ownership of telecommunications facilities. Moreover, such a restriction would preclude the implementation of innovative communications services by certain entities.<sup>20/</sup>

### III. CHANNEL SPLITS/CHANNEL EFFICIENCY STANDARDS FOR THE 150-174 MHZ BAND

#### A. Comments Reveal Uniform Opposition To Commission Plan

Despite the contrasting views that were expressed with regard to the best method to achieve spectrum efficiency in the bands below 512 MHz, the one area in which there was universal agreement among the commenters was in condemning the Commission's proposed two-step transition to very narrowband technology as unworkable and unsupportable.

The commenters agree with UTC that the FCC's plan would be prohibitive both financially and operationally. AAR, for instance, finds the Commission's plan undesirable because "...it would require enormous burdens on PLMR

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<sup>19/</sup> AMC, pp. 8-11; and AMRA, p. 9.

<sup>20/</sup> For example, UTC has formed a non-profit cooperative venture comprised of a number of utilities throughout the country in order to operate a nationwide land mobile radio system in the 220 MHz band.

licensees with a minimum gain in new channels" and "...does not provide adequate flexibility to meet growing wideband requirements for data."<sup>21/</sup> AMRA also disagrees with the Commission's proposed transition plan, finding it "...unrealistic and very burdensome."<sup>22/</sup> AMRA estimates that the FCC's plan would require between \$2.6 and \$4.1 billion to implement equipment modifications alone.<sup>23/</sup>

Several commenters also echo UTC's concern that the FCC's proposal to require, by 1996, a reduction in transmitter deviation as well as general reductions in transmitter power and antenna heights will result in significant cutbacks in coverage. For example, API argues that the FCC's proposal will necessitate the acquisition of additional sites, towers, RF equipment and remote control circuits merely to duplicate existing service.<sup>24/</sup>

A number of commenters question the underlying technical merits of the FCC's proposals. For example, the Telecommunications Industry Association (TIA) notes that reducing the operating bandwidth as proposed by the FCC by simply decreasing the deviation of existing 25 kHz

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<sup>21/</sup> AAR, p. 26.

<sup>22/</sup> AMRA, p. 2.

<sup>23/</sup> AMRA, p. 3.

<sup>24/</sup> API, p. 9.

equipment without comparable changes to the receiver will not be effective for the following reasons:

- o Reduced deviation from the transmitter will require additional audio gain in the receiver particularly for noisy operating environments;
- o System range will be reduced because reduced transmitter deviation will result in a decreased receiver signal-to-noise ratio;
- o System range will also be reduced because reduced deviation will inhibit tone coded squelch from operating in low signal areas, especially in in-building coverage areas; and
- o Merely reducing deviation does not improve transmitter stability to that of a true 12.5 kHz unit.<sup>25/</sup>

TIA also agrees with UTC that reducing deviation could affect subaudible tones, and could increase the incidence of intermodulation products.

The Commission's proposal to require an initial "screwdriver" adjustment of equipment was attacked by other parties as well. Ericsson GE Mobile Communications, Inc. and The Ericsson Corporation (collectively Ericsson) state that the "screwdriver adjustment" would increase users' costs and reduce equipment performance without providing significant benefits.<sup>26/</sup> In fact, Ericsson estimates that the total cost to the industry of this adjustment would be

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<sup>25/</sup> TIA, p. 7.

<sup>26/</sup> Ericsson, p. 5.

approximately \$1.656 billion just for the modifications to the transmitters.<sup>27/</sup> Further, Ericsson states that the new narrowband channels would be incompatible with the predetermined limits of existing radios.<sup>28/</sup> Motorola, Inc. (Motorola) agrees, stating that the screwdriver adjustment would be costly, ineffective, and would not achieve the Commission's goals.<sup>29/</sup> SEA, Inc. (SEA) points out that the screwdriver adjustment would limit the ability to integrate new technology licensees on adjacent channels and likely worsen the adjacent channel interference to new narrowband technology stations due to the frequency stability of old transmitters.<sup>30/</sup> Finally, AAA notes that, because much of the existing equipment would need to be replaced in order to fully implement an occupied bandwidth of 10 kHz, this "simple 'screwdriver adjustment'" is more likely a required equipment replacement step.<sup>31/</sup>

There was also much criticism of the Commission's proposed second step - the reduction to very narrowband channels. TIA argues that it is premature to mandate the introduction of either 5 or 6.25 kHz channels because the

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<sup>27/</sup> Ericsson, p. 5.

<sup>28/</sup> Ericsson, p. 7.

<sup>29/</sup> Motorola, p. 19.

<sup>30/</sup> SEA, p. 16.

<sup>31/</sup> AAA, p. 31.



technology has not been rigorously tested or validated.

TTA has significant concern that separating 12 million